CORPS OF ENGINEERS — U. S. ARMY

NOTE: DIMENSIONS SHOWN IN PARENTHESIS ARE APPROXIMATE METRIC EQUIVALENT EXPRESSED IN METERS UNLESS OTHERWISE NOTED.

RELATED DRAWINGS

1. DEF 141-32-01, WEAPONS STORAGE AREA, SECURITY OPERATIONS BLDG.
2. DEF 141-32-02, WEAPONS STORAGE AREA, ENTRY CONTROL FACILITY
3. DEF 812-30-01, WEAPONS STORAGE AREA, SECURITY LIGHTING SYSTEM
4. DEF 872-30-01, WEAPONS STORAGE AREA, PERIMETER WARNING SIGN

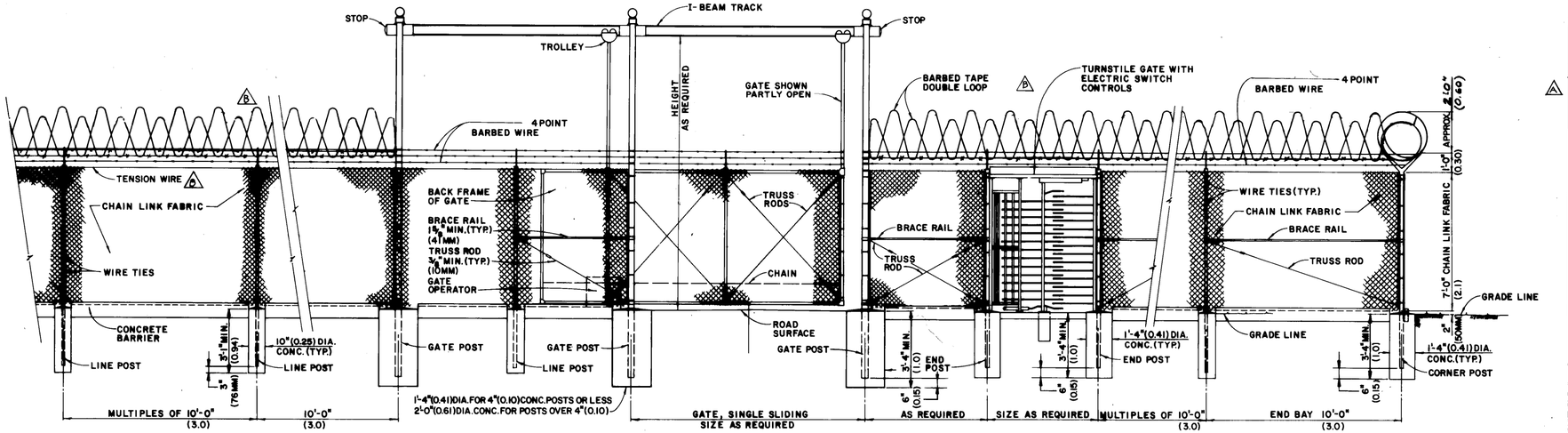
REFERENCED PUBLICATIONS

1. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) STANDARDS:
   - C 94-74A — READY-MIXED CONCRETE
   - A 82-72 — COLD DRAWN STEEL WIRE FOR CONCRETE REINFORCEMENT
   - A 615-76 — DEFORMED AND PLAIN BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT
   - A 36-75 — STRUCTURAL STEEL
2. MILITARY SPECIFICATIONS (MIL. SPEC.):
   - MIL-B-52486E — BARBED TAPE, CONCERTINA
3. TECHNICAL MANUALS
   - TM 5-853-2 — SECURITY ENGINEERING-CONCEPT DESIGN
   - TM 5-820-4 — DRAINAGE AND EROSION CONTROL, DRAINAGE FOR AREAS OTHER THAN AIRFIELDS.
4. SPECIFICATIONS:
   - CEGS 02831 FENCE CHAIN LINK
   - CEGS 13355 VEHICLE BARRIER

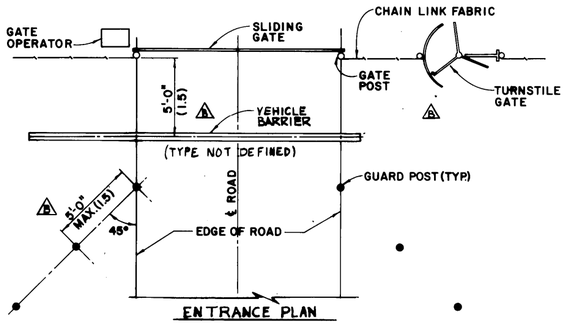
DESIGN GUIDES

GENERAL

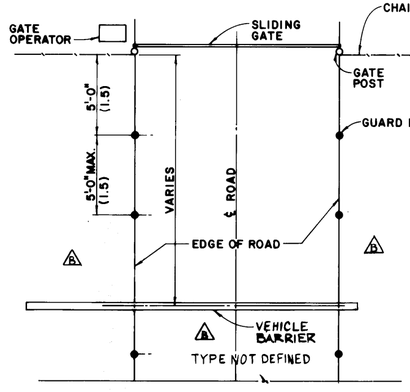
1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPE OF FENCE SECTIONS AND METHODS OF INSTALLATIONS.
2. CONSTRUCTION WILL BE IN ACCORDANCE WITH CEGS-02831
3. DRAINAGE STRUCTURES AND WATER PASSAGES EXTENDING UNDER FENCES SHALL FORM AN OBSTACLE TO PENETRATION EQUIVALENT TO THE FENCE ITSELF. RECTANGULAR OPENING HAVING A MINIMUM DIMENSION GREATER THAN 6 INCHES (0.15) WITH A CROSS SECTIONAL AREA GREATER THAN 96 SQUARE INCHES (0.06 SQUARE METERS) AND CIRCULAR OPENING HAVING A DIAMETER GREATER THAN 10 INCHES (0.25) SHALL BE PROTECTED BY SECURELY FASTENED WELDED-BAR GRILLS. AS AN ALTERNATIVE, DRAINAGE STRUCTURES MAY BE CONSTRUCTED OF MULTIPLE PIPES, EACH PIPE HAVING A DIAMETER OF 10 INCHES (0.25) OR LESS. REFER TO TM 5-820-4.
4. PREFORMED CLIPS SHALL NOT BE USED IN PLACE OF WIRE TIES.
5. TURNSTILES SHALL BE THE PRODUCT OF A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURE OF THIS TYPE OF EQUIPMENT THAT HAS BEEN IN SATISFACTORY USE FOR A PERIOD OF AT LEAST THREE YEARS. THE TURNSTILE SHALL BE A TWO-WAY MODEL, SEVEN (7) FEET HIGH, WITH CEILING PLATE AND FOOTGUARDS DESIGNED FOR ALL-WEATHER SERVICE, AND SHALL BE OF HEAVY-DUTY CONSTRUCTION. TURNSTILE CONTROLS SHALL BE LOCATED AS SHOWN. EACH TURNSTILE MECHANISM SHALL HAVE A POSITIVE LOCKING FEATURE WHEN CLOSED. IT MUST NOT BE POSSIBLE TO EXIT FROM THE AREA WHEN THE SWITCH IS IN THE "ENTER" POSITION, NOR SHOULD IT BE POSSIBLE TO ENTER INTO THE AREA WHEN THE SWITCH IS IN THE "EXIT" POSITION. THE MECHANISM SHALL BE ARRANGED TO AUTOMATICALLY LOCK AFTER EACH PERSON IS PERMITTED EITHER TO ENTER OR EXIT. A SEPARATE RED MUSHROOM HEAD PUSHBUTTON SWITCH SHALL BE PROVIDED AND SO CONNECTED THAT, WHEN ACTIVATED, THE CONTROL MECHANISM WILL BE DEACTIVATED SO AS TO FREELY PERMIT NONCONTROLLED "EXIT" OR "ENTER" POSITIONS DURING AN EMERGENCY.
6. SLIDING GATE OPERATOR SHALL BE THE PRODUCT OF A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURE OF THIS TYPE OF EQUIPMENT THAT HAS BEEN IN SATISFACTORY SERVICE USE FOR A PERIOD OF AT LEAST THREE YEARS. THE GATE OPERATOR SHALL BE ELECTRICALLY POWERED AND SHALL INCLUDE A REVERSIBLE ELECTRIC MOTOR, SPEED REDUCTION MECHANISM (MINIMUM 3-SPEED), MAGNETIC SOLENOID BRAKE, SAFETY CLUTCH, AUTOMATIC LIMIT SWITCHES, SWITCH BOX ASSEMBLY (COMPLETELY COVERED), METAL WEATHERPROOF ENCLOSURE, AND PROVISION FOR MANUAL OPERATION IN CASE OF POWER FAILURE. CONTROLS FOR OPERATING THE SLIDING GATES SHALL BE LOCATED AS SHOWN ON THE PROJECT DRAWINGS. THE CONTROLS SHALL INCLUDE A "STOP" BUTTON SO THAT IT WILL BE POSSIBLE TO STOP THE MOVEMENT OF THE GATE AT ANY POINT IN EITHER THE OPENING OR CLOSING CYCLE. THE SLIDING GATES SHALL EACH HAVE A POSITIVE LOCKING MECHANISM WHEN CLOSED. ELECTRICAL INTERLOCKING SHALL BE PROVIDED SUCH THAT IT SHALL BE IMPOSSIBLE TO OPEN THE GATE UNLESS ITS ASSOCIATED LOCKING MECHANISM CONTROL SWITCH IS IN THE "UNLOCK" POSITION. ADDITIONAL INTERLOCKS IN THE FORM OF LIMIT SWITCHES SHALL BE PROVIDED ON BOTH THE INNER AND OUTER GATES AND SO CONNECTED IN THE CONTROL CIRCUITS THAT ONE GATE CANNOT BE OPENED UNLESS THE OTHER GATE IS IN THE FULLY CLOSED POSITION. A SEPARATE RED MUSHROOM HEAD PUSHBUTTON SWITCH SHALL BE PROVIDED AND SO CONNECTED THAT, WHEN ACTIVATED, THE INTERLOCKING FEATURES WILL BE DISABLED SO AS TO PERMIT BOTH GATES TO BE OPENED SIMULTANEOUSLY DURING AN EMERGENCY.
7. VEHICLE BARRIERS SHALL BE DESIGNED FOR THE APPROPRIATE VEHICLE BOMB TACTIC THREAT SEVERITY LEVEL. REFER TO TM 5-853-2 FOR DESIGN GUIDANCE AND CEGS 13355 FOR SPECIFICATION REQUIREMENTS.
8. REINFORCED BARBED TAPE MAY BE USED IN LIEU OF MIL. SPEC. MIL-B-52486E,TYPE II REINFORCED. BARBED TAPE SHALL BE FABRICATED FROM A 24-INCH-DIAMETER COIL WITHIN A 30-INCH-DIAMETER COIL. ADJACENT LOOPS OF EACH COIL SHALL BE CLIPPED TOGETHER IN THREE (3) LOCATIONS AROUND THE CIRCUMFERENCE TO PRODUCE THE CONCERTINA EFFECT UPON DEVELOPMENT. EACH COIL SHALL CONSIST OF 31 LOOPS, WITH THE SPACING BETWEEN ATTACHMENT POINTS EQUAL TO 18" PLUS OR MINUS 2". CLIPS SHALL BE FABRICATED FROM STAINLESS STEEL. CLIP DIMENSIONS ARE 0.085" X 0.375". CLIPS SHALL BE CAPABLE OF WITHSTANDING A MINIMUM PULL LOAD OF 100#. BARBED TAPE SHALL BE FABRICATED FROM 430 STAINLESS STEEL HARDENED TO ROCKWELL (30N) 40-45. BARBED TAPE SHALL BE PERMANENTLY COLD-CLENCHED AROUND A 0.080-INCH-DIAMETER CLASS 3 GALVANIZED STEEL REINFORCING WIRE. THE CORE WIRE SHALL HAVE A TENSILE STRENGTH OF 220,000 PSI. THE STAINLESS STRIP SHALL BE ONE INCH WIDE BY 0.025" THICK WITH CLUSTERS OF FOUR (4) NEEDLE-SHARP BARBS ON 4-INCH CENTERS. BARBS SHALL HAVE MINIMUM LENGTH OF 12". THE LENGTH OF THE EXTENDED COIL SHALL BE 20'. THIS PRODUCT IS AVAILABLE UNDER GSA CONTRACT GS-00F-71242.
9. REINFORCING BARS: ASTM A 615 DEFORMED GRADE 40. BARS SMALLER THAN 3/8" DIAMETER, ASTM A 82, GALVANIZED.
10. ELECTRICAL POWER FOR THE GATE OPERATOR MOTOR AND ROADWAY BARRIER MOTOR SHALL BE PROVIDED.
11. REMOTE CONTROLS SHALL BE PROVIDED.
12. OPERATION AND MAINTENANCE INSTRUCTIONS: INSTRUCTIONS AND COMPLETE PROCEDURES NECESSARY TO OPERATE AND MAINTAIN THE EQUIPMENT, PARTS LISTS, AND LOCATION OF NEAREST SERVICE ORGANIZATION SHALL BE FURNISHED.



ELEVATION-CHAIN LINK FABRIC FENCE/BARBED TAPE TOPPING & HORIZONTIAL SLIDING GATE
NOT TO SCALE

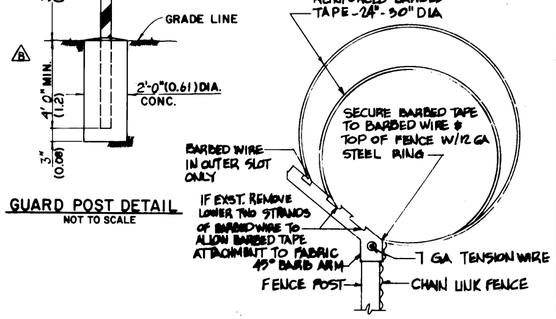


ENTRANCE PLAN



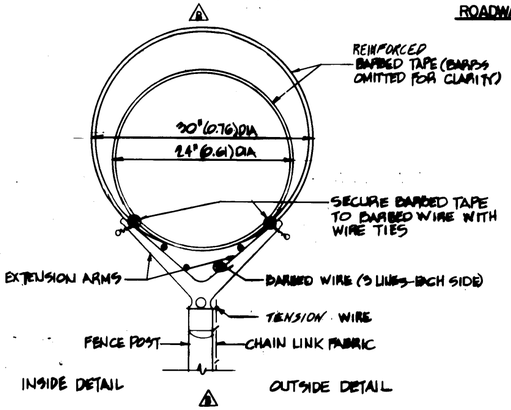
ALTERNATE PLAN

ROADWAY BARRIER LOCATION PLANS
NOT TO SCALE

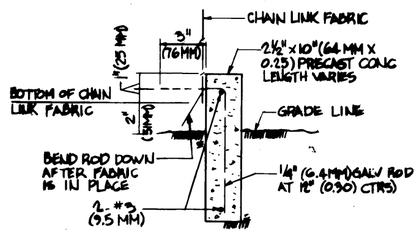


GUARD POST DETAIL
NOT TO SCALE

REINFORCED BARBED TYPE MOUNTING DETAIL
NO SCALE



MIL-B-52486E REINFORCED BARBED TAPE MOUNTING DETAIL
NO SCALE



CONCRETE BARRIER DETAIL
NO SCALE

SYMBOL	DESCRIPTION	BY	DATE	APPROVAL
	REVISIONS			
A	GENERAL REVISIONS	DFH	6/92	
B	GENERAL REVISIONS	HSMM	1/96	

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REVISIONS APPROVED: [signature] 4/9/87 DATE: 9 APR 1987
APPROVED FOR: [signature] DAMC-ESN 18 534
DATE: 25 MARCH 1977

WEAPONS STORAGE AREA FENCE DETAILS AND VEHICLE BARRIER

SCALE: AS NOTED SPEC. NO. 40-16-10-76
DRAWING NUMBER: DEF 872-10-01
SHEET 1 OF 1

THIS DWG SUPERSEDES DWG 40-16-10